IN THE SPECIFICATION

Please insert the following paragraph between lines 5 and 6 on page 4 of the specification.

Figure 7 is a perspective drawing of the three substrates shown in Figure 1.

Please revise the paragraph beginning on line 19 of page 6 of the specification as follows:

As mentioned earlier, the detector 4 is fabricated from a semi conductor, e.g. silicon structure consisting of three separate etched layers: a top layer 23, a middle layer 20 and a lower layer 24 which are illustrated in Figure 1 and Figure 7. Figures 3 and 4 show the middle layer 20 which is etched on both its upper surface 21 and its lower surface 22. The upper layer 23 and the lower layer 24 are each etched on only one side and the pattern of the etch in each case is a mirror image of the etch pattern of the respective upper surface 21 and lower surface 22 of the middle layer 20. Thus, whilst for each individual layer of silicon the etch pattern is open, when the three layers are brought together, the etch patterns of their surfaces match to define waveguide structures extending along the interface of the surfaces. Co-operating location holes and pins 25 are also provided in the surfaces of each of the layers to ensure accurate positioning of the layers with respect to one another.

Please revise the paragraph beginning on line 20 of page 4 of the specification as follows:

With the embodiment of a terahertz camera illustrated in Figure 1, movement of the two mirrors 6, 7 is controlled by separate linear motors 10, 11, which may be stepper motors to ensure precise positioning of the mirrors in the X-Y plane. Each of the motors 10, 11 includes a data port 12 that is connected to the processor 5 and feeds data on the instantaneous positions of the mirrors, and also receives control signals from the computer. As previously stated, flipping mirrors or <u>the like</u> [[else]] may be use for scanning.

Please revise the paragraph beginning on line 27 of page 4 of the specification as follows:

The terahertz detector 4 is coupled to an intermediate frequency IF electronic circuit 28 and to a baseband electronic circuit 29 which has an output data port 13 in communication with the ~~controller~~ <u>processor</u> 5. The ~~controller~~ <u>processor</u> 5, which is preferably a conventional desktop or portable computer, receives and synchronises the image data from the detector 4 and the positional data from the drivers of the motors 10, 11 and builds from the data an image of the scanned specimen. Conventional data acquisition software may be used for this purpose. This image may be displayed on a screen and/or output to a printer as well as being stored as a conventional file. In Figure 2, the terahertz detector 4 is illustrated in detail. Its components are fabricated in or are mounted on a semi-conductor, e.g. silicon structure an example of which is illustrated in Figures 3 and 4. Alternatively, a metallic structure may be used. The components of the detector 4 comprise an antenna comprised of a horn antenna 14 and a waveguide 15, a mixer 16 and a local oscillator feed 17. The antenna selectively

receives a predetermined frequency of electromagnetic radiation ("signal input"), the waveguide 15 being in communication with a mixer 16 which is also in communication with a local oscillator feed 17 comprised of a waveguide structure and having a signal input for connection to a local oscillator. The mixer 16 heterodyns the signal input and the local oscillator input so as to generate an intermediate frequency ("IF") output. In other words, in this embodiment of an IF signal is generated in the detector rather than outside as in Figure 1. The mixer 16 includes on a microstrip a first pass band filter 18 for isolating the local oscillator input from the waveguide 15 and a second pass band filter 19 which acts as a back stop to allow through only the pre-selected IF output.